

PATENT APPLICATION
IN THE U.S. PATENT AND TRADEMARK OFFICE
for
HOME NETWORK USING WIRELESS MODULE

5

by
AKIHIKO TOYOSHIMA

RELATED APPLICATIONS

This application incorporates herein by reference U.S. Patent Application Serial
10 Number 09/_____, of Akihiko Toyoshima, for SYSTEM AND METHOD
FOR ACTIVATION OF A WIRELESS MODULE, filed October 5, 2001 (Sony IPD
50P4257.01); U.S. Patent Application Serial No. 09/_____, of Akihiko
Toyoshima, for MULTIPLE WIRELESS FORMAT PHONE SYSTEM AND
METHOD, filed October 5, 2001 (Sony IPD No. 50P4257.03); U.S. Patent Application
15 Serial No. 09/_____, of Akihiko Toyoshima, for WIRELESS MODEM
MODULE SERVER SYSTEM, filed October _____, 2001 (Sony IPD No. 50P4257.04);
U.S. Patent Application Serial No. 09/_____, of Akihiko Toyoshima, for
WIRELESS MODULE SECURITY SYSTEM AND METHOD, filed October 5, 2001
(Sony IPD 50P4257.05), U.S. Patent Application Serial No. 09/_____, of
20 Akihiko Toyoshima, for A DEFAULT PORTAL SITE ACCESS WITH WIRELESS
MODULE, filed October _____, 2001 (Sony IPD 50P4257.06); and U.S. Patent
Application Serial No. 09/_____, of Akihiko Toyoshima, for SYSTEM,
METHOD AND APPARATUS FOR EMBEDDED FIRMWARE CODE UPDATE, filed
October 5, 2001 (Sony IPD 50P4257.07); and U.S. Patent Application Serial Number
25 09/928,582, of Baranowski, et al., for WIRELESS MODULE, filed August 13, 2001
(Sony IPD 50N3390); and Provisional Patent Application Serial No. 60/240,011, of Juan,
et al., for PORTABLE WIRELESS MODEM, filed October 13, 2000 (Sony IPD
50P4257), the benefit of whose priority date is hereby claimed.

BACKGROUND

The present invention is related to home networks and wireless communication.

A typical home network connects multiple home devices in a local area network (LAN). Examples of home devices include televisions, audio systems, refrigerators, microwave ovens, and other consumer appliances. A home network may also include other network devices, such as a desktop computer. Through the home network, the network devices can communicate with one another, such as to request and provide information. To communicate with devices outside the network one or more of the devices in the home network needs to be connected to an external network.

SUMMARY

The present disclosure provides methods and apparatus for implementing a home network including a wireless module. In one implementation, a home network includes: two or more host devices, where at least one host device includes a wireless module port, and where the host devices are connected in a local network; and a wireless module connected to the wireless module port of a host device, where the wireless module provides a wireless connection to an external network; where at least one host device is a consumer appliance.

In another implementation, a method of registering a home network portal includes: evaluating a status of a wireless module port in a first host device in a home network including multiple host devices; if the wireless module port status indicates a wireless module is not connected, evaluating the status of the wireless module port again; and if the wireless module port status indicates a wireless module is connected, broadcasting to other host devices in the home network that the first host device is a home network portal having a connected wireless module.

In another implementation, a method of sending data from a home network through a home network portal includes: determining which host device in a home network including multiple host devices is a home network portal having a connected wireless module; sending data to the home network portal; sending data from the home network portal through the wireless module to an external network; where at least one host device is a consumer appliance.

In another implementation, a method of receiving data in a home network through a home network portal includes: receiving data from an external network at a home network portal, where the home network portal has a connected wireless module and is a host device in a home network including multiple host devices; determining which host device in the home network is a destination host device for the data; and sending data from the home network portal to the destination host device; where at least one host device is a consumer appliance.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a network diagram of a home network including a wireless module according to the present invention.

FIG. 2 is a block diagram of one implementation of a wireless module according to the present invention.

FIG. 3 is a block diagram of a host device including a wireless module port according to the present invention.

FIG. 4 is a flow chart of registering a home network portal in a home network according to the present invention.

FIG. 5 is a flow chart of sending data out of the home network through the home network portal according to the present invention.

FIG. 6 is a flow chart of receiving data from outside the home network through the home network portal according to the present invention.

DETAILED DESCRIPTION

The present invention provides methods and apparatus for implementing a home network including a wireless module. One or more host devices in the home network include wireless module ports to connect to respective wireless modules. A wireless module provides a wireless connection to an external network, such as the Internet. A host device connected to a wireless module forms a home network portal and can communicate with the external network across the wireless connection. Other host devices in the home network can also communicate with the external network through a combination of the home network and the home network portal.